DEPARTMENT OF THE ARMY
DETROIT DISTRICT, CORPS OF ENGINEERS
477 MICHIGAN AVENUE
DETROIT, MI 48226-2550

July 20, 2012

REPLY TO
ATTENTION OF:
Engineering & Technical Services
Regulatory Office
Permit No. LRE-2011-00515-38

Peter Swenson
Chief, Watersheds and Non-Point Source
Programs Branch (WW16J)
U.S. Environmental Protection Agency
77 West Jackson Boulevard
Chicago, Illinois 60604

Dear Mr. Swenson:

We are writing in response to Michigan Department of Environmental Quality's (MDEQ) May 18, 2012 Public Notice No. 12-27-0001-P for work proposed by Orvana Resources U.S. Corporation (Orvana) in Gogebic County, Michigan. According to the application dated May 10, 2012, a proposed copper mine entrance and surface appurtenances would impact 58.67 acres of wetlands and 13,672 linear feet of stream. Stream impacts as a result of the installation of 14 culverts, construction of a tailings disposal facility, and settling basin discharges will occur to Lehigh Creek, Gipsy Creek, Namebinag Creek, Gijik Creek, and an un-named creek.

Our comments are being submitted pursuant to Section 404(j) of the Clean Water Act, the regulations in 40 CFR §233, and further prescribed in the Memorandum of Agreement between the State of Michigan and the U.S. Environmental Protection Agency. A site visit has been conducted by our staff. We have also received correspondence from the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) and two of its member Tribes, the Bad River Band of Lake Superior Tribe of Chippewa Indians and the Keweenaw Bay Indian Community, concerning the proposed project. Copies are enclosed for your review.

Complete Application:

The Corps' regulations at 33 CFR, Part 325.1(d)(2) state that all activities which the applicant plans to undertake which are reasonably related to the same project should be included in the same permit application. As part of a pre-application meeting for a water intake structure in Lake Superior, we were informed that the Gogebic Range Water Authority (GRWA) has long had plans to construct a municipal water intake in Lake Superior. Obviously, the water intake structure, water line, and water access road could be constructed and used independently of the mine and if built, may be used long-term by GRWA customers. However, the mine appears to be dependent upon the source of water. The absence of the water intake structure from Orvana's application seems problematic, as they have included both the line and water supply access road as part of this application. Additionally, reference to the water-intake structure is located in the Alternatives Analysis Section of their application which states, "The Copperwood Project requires a source of process water...," and in the Environmental Assessment Section where it

states, "A water-intake structure will be constructed in the lake to deliver water to the operation." The two actions are undeniably inter-related as the mine cannot operate without the water source; therefore, we believe that the water intake structure should be included in this application.

Alternatives Analysis:

By far, the largest surface impact to aquatic resources would be the construction of the tailings disposal facility. Our understanding is that underground disposal of the tailings, i.e., reintroduction into the mine, is common practice in present day mining operations. The applicant asserts that only 25% of the material could be placed in the mine due to decompression of the materials as they are mined, and the addition of solidifying agents. Utilizing this alternative would result in a 25% reduction in the surface holding area representing a 10+ acre reduction of wetland impacts. Alternative No. 1, involving underground disposal of tailings, would also be a less expensive option, costing over $30M less than the preferred alternative. We noted that all of the tailing basin alternatives had the exact same configuration, only the location was modified. Reasonable alternatives should explore alternative configurations that may avoid or reduce impacts. The magnitude of this project warrants an in-depth analysis of all potential alternatives. The data and reasoning behind selection, or non-selection, of each alternative should be described and presented.

Impacts Analysis:

The proposed layout of mine-related structures will result in the loss of nearly 59 acres of wetlands and 13,672 linear feet of streams in the Lake Superior watershed. Considerable effort went into cataloguing streams and wetlands, and the detailed data sheets submitted with the application package appear to be accurate based on observations made at our site inspection. The majority of proposed wetland impacts would be to forested wetlands associated with headwater streams and drainage swales in the landscape. The wetlands function to hold runoff to prevent stream flooding, filter out sediments, reduce or prevent erosion, and provide habitat for a variety of upland and aquatic species. Most of the stream impacts due to construction of the tailings disposal facility will impact the headwaters of both Lehigh and Gipsy Creeks. Headwaters function as storage, transformation, and transportation for organic matter and nutrients, and as a transport mechanism for sediments into the main streams and eventually into Lake Superior. Their roughness serves to slow surface runoff, thereby allowing sedimentation in the upper reaches of the watershed and improving water quality in the lower reaches. The loss of these headwaters may result in degradation of downstream aquatic systems. Alternatives should be explored to avoid, minimize and mitigate these impacts.

The letters from GLIFWC and the Bad River Band of Lake Superior Tribe of Chippewa Indians, and KBIC express major concerns over water quality impacts as a result of the mining operations, and potential leakage/seepage from both the underground mining operations and the tailings disposal facility to the surface drainage system. Details of the liner design and tailings basin construction were not included in the application package, thereby leaving many concerns

unaddressed regarding potential impacts to surface and ground water quality, both as a result of the operation of the mine itself and after mine closing procedures have been completed.

The applicant states, "Flow within the streams is flashy and significantly controlled by precipitation runoff. Little or no groundwater contribution has been observed in these streams." This, however, conflicts with comments recently submitted by GLIFWC whose findings demonstrate "...almost certainly a large groundwater component to the local streams." This discrepancy should be addressed. These accurate determinations are important considerations when reviewing Orvana's mine closing plans and how they will affect surface water quality and the water quality of streams contributing to the contaminant load draining to Lake Superior.

Section 404(b)(1) Analysis:

The Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill material in CFR 40 Part 230 requires that the applicant overcome the presumption that a less environmentally damaging practicable alternative, not involving special aquatic sites, exists. As discussed above, due to a lack of data and support provided with the application, it appears that Alternative No. 1 would be the least damaging practicable alternative when taking into consideration project purpose, technology, and costs. The current application materials do not appear to overcome the presumption with the selection of their preferred alternative.

Compensatory Mitigation:

While the applicant addressed their proposed wetland mitigation in some detail, stream mitigation is limited in the mitigation proposal. Stream water quality improvement by removal of waste rock (from previous mining operations in the area) from seven road crossings and habitat restoration by the removal of one culvert with streambank restoration in that location, is not considered adequate compensation for filling over two miles of stream to construct the tailings disposal facility. Even if the majority of the stream impacts would occur in ephemeral streams, as stated by the applicant, creation of an equal amount of stream channels outside the periphery of the tailings disposal facility would be more appropriate and acceptable as mitigation. The applicant needs to re-evaluate their stream mitigation proposal to adequately compensate for lost aquatic resource functions as a result of construction of the mine and its surface appurtenances.

Conclusion:

The application by Orvana for the Copperwood facility is not considered complete. It omits a water intake required for operation, although the water intake access road and water line are included. Based on available information, the proposed project is not considered in compliance with the 404(b)(1) Guidelines as the alternative analysis does not support the least environmentally damaging practicable alternative. Our review of potential mitigation concludes that compensatory mitigation for stream impacts has not been adequately addressed.

We appreciate the opportunity to comment on the proposed project. If you have any questions, please contact Robert Deroche at (906) 225-8089.

Sincerely,

John Konik
Chief, Regulatory Office
Engineering and Technical Services

Enclosures

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MDEQ, Caron (12-27-0001-P)